

U.S.S.N. 10/700,220

S. Bharitkar et al.

Response to Office Action and Request for Reconsideration

Amendment

In the specification:

Please replace paragraph 0001 with the following recitation.

[0001] The present application is a continuation-in-part of and claims priority to U.S. application serial number 10/465,644 filed June 20, 2003 which claims the benefit of priority to U.S. Provisional Patent Application 60/390,122 filed June 21, 2002, which are incorporated by reference in their entirety herein.

REMARKS

Claims 1-22 are pending in this continuation-in-part application. By this response minor amendments to claims 2, 4, 6, 9-19, 21 and 22 have made to correct informalities. Additionally, the first paragraph of the specification is amended to more clearly point out the status of this application as a continuation-in-part. These amendments are not made in response to Examiner's arguments or prior art. The amendments are fully supported in the specification.

Double Patenting

In paragraphs 1-7 the Examiner provisionally rejects claims in the present application under the judicially created doctrine of obvious type double patenting in view of co-pending U.S. Patent Application Serial Nr. 10/465,644. The applicant respectfully traverses this rejection.

In paragraph 2 of the Office Action the Examiner states the reason for provisional rejection of claim 1 as:

"It is critical that patents issuing from these applications be commonly owned to avoid potential licensees from owing license fees to two different parties"

The Examiner is respectfully reminded that this argument is commercial in nature and outside of the scope of patentability. If the Examiner maintains this rejection he is respectfully invited to provide a legal basis for provisionally rejecting the claims. The Applicant asserts that the claims are indeed patently distinct and requests the Examiner reconsider and withdraw this provisional rejection.

In paragraph 3 of the Office Action the Examiner states the reason for provisional rejection of claim 2 as:

“It is critical that patents issuing from these applications be commonly owned to avoid potential licensees from owing license fees to two different parties”

As stated above, the Examiner is respectfully reminded that this argument is commercial in nature and outside of the scope of patentability. If the Examiner maintains this rejection he is respectfully invited to provide a legal basis for provisionally rejecting the claims. The Applicant asserts that the claims are indeed patently distinct and requests the Examiner reconsider and withdraw this provisional rejection.

In paragraph 4 of the Office Action the Examiner states the reason for provisional rejection of claim 3 as:

“It is critical that patents issuing from these applications be commonly owned to avoid potential licensees from owing license fees to two different parties”

As stated above, the Examiner is respectfully reminded that this argument is commercial in nature and outside of the scope of patentability. If the Examiner maintains this rejection he is respectfully invited to provide a legal basis for provisionally rejecting the claims. The Applicant asserts that the claims are indeed patently distinct and requests the Examiner reconsider and withdraw this provisional rejection.

In paragraph 5 of the Office Action the Examiner states the reason for provisional rejection of claim 4 as:

“It is critical that patents issuing from these applications be commonly owned to avoid potential licensees from owing license fees to two different parties”

As stated above, the Examiner is respectfully reminded that this argument is commercial in nature and outside of the scope of patentability. If the Examiner

maintains this rejection he is respectfully invited to provide a legal basis for provisionally rejecting the claims. The Applicant asserts that the claims are indeed patently distinct and requests the Examiner reconsider and withdraw this provisional rejection.

In paragraph 6 of the Office Action the Examiner states the reason for provisional rejection of claim 7 as:

“It is critical that patents issuing from these applications be commonly owned to avoid potential licensees from owing license fees to two different parties”

As stated above, the Examiner is respectfully reminded that this argument is commercial in nature and outside of the scope of patentability. If the Examiner maintains this rejection he is respectfully invited to provide a legal basis for provisionally rejecting the claims. The Applicant asserts that the claims are indeed patently distinct and requests the Examiner reconsider and withdraw this provisional rejection.

In paragraph 7 of the Office Action the Examiner states the reason for provisional rejection of claim 17 as:

“It is critical that patents issuing from these applications be commonly owned to avoid potential licensees from owing license fees to two different parties”

As stated above, the Examiner is respectfully reminded that this argument is commercial in nature and outside of the scope of patentability. If the Examiner maintains this rejection he is respectfully invited to provide a legal basis for provisionally rejecting the claims. The Applicant asserts that the claims are indeed patently distinct and requests the Examiner reconsider and withdraw this provisional rejection.

Rejection Under 35 U.S.C. § 103

In the Office Action, claims 1, 8, 14, and 20 stand rejected as unpatentable under 35 U.S.C. § 103(a) over U.S. Patent Nr. 6, 072, 877 ("Abel") in view of U.S. Patent Nr. 5,771,294 ("Inoue"). As discussed below, the Applicant respectfully traverses this rejection.

The Law of Obviousness

In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

"First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined), must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure." M.P.E.P. § 2142. (Emphasis added)

The Proposed Combination Fails to Teach Basic Elements.

As explained above, the Office Action makes a Section 103 rejection by combining Abel with Inoue. Without prejudice to the propriety of making such combination, the Applicant respectfully submits this combination would still not teach all of the elements recited in independent claims 1, 8, 14, and 20. Specifically, the combination fails to teach, suggest or imply the elements of: warping multiple measured acoustical responses, generating a low order spectral model of a general response, obtaining a warped acoustic correction filter from the low order model and unwarping the correction filter, as recited in independent claim 1.

Further, the combination fails to teach, suggest or imply warping each of the acoustical characteristics measured at each expected listener position; generating a low order spectral model of each of the warped acoustical characteristics; obtaining a warped acoustic correction filter from the low order spectral model; unwarping the warped acoustic correction filter to obtain a room acoustic correction filter; filtering an audio signal with the room acoustical correction filter; and transmitting the filtered audio from at least one loudspeaker, wherein the audio signal received at said each expected listener position is substantially free of distortions. as recited in independent claim 8.

The proposed combination is additionally void of teaching, suggestion, or implication of a filtering means for performing multiple-listener room acoustic correction, the filtering means formed from a warped room acoustical responses, wherein the room acoustical responses are measured at each of an expected listener position in a multiple-listener environment; a weighted average response of the warped room acoustical responses; a low order spectral model of the weighted average response; a warped filter formed from the low order spectral model; and an unwarped room acoustic correction filter obtained by unwarping the warped filter; wherein an audio signal, filtered by the filtering means comprised of the room acoustic correction filter, is received substantially distortion-free at each of the expected listener positions; as recited in independent claim 14.

The combination is further lacking any teaching, suggestion, or implication of warping each room acoustical response, said each room acoustical response obtained at each expected listener position; clustering each of the warped room acoustical response into at least one cluster, wherein each cluster includes a centroid; forming a general response from the at least one centroid; inverting the general response to obtain an inverse response; obtaining a lower order spectral model of the inverse response; unwarping the lower order spectral model of the inverse response to form the room acoustic correction filter; wherein the room acoustic correction filter corrects the room acoustics at the multiple-listener positions, as recited in independent claim 20.

The Examiner is respectfully reminded that in order to establish a prima facie case of unpatentability the prior art must teach suggest or imply all limitations of the claimed invention in either as much specificity as claimed or in a manner that would render them obvious. Here, the burden is simply not met. The Examiner is respectfully invited to point out where in either teaching the notion of warping, unwarping, low order spectral models, or centriods are discussed. It is respectfully submitted that the rejection to the independent claims is traversed.

The Examiner further rejects dependent claim 2 as unpatentable under 35 U.S.C. § 103(a) over the above proposed combination in further view of U.S. Patent 6,118,875 ("Moller"). In this rejection, the Examiner relies on the above proposed combination to teach all elements of independent claim 1. As discussed above this reliance is misplaced. The proposed addition of the Moller reference does not correct the deficiencies of the first combination as applied to independent claim 1. Further, since dependent claim 2 further defines and limits the invention as recited in independent claim 1, this rejection is traversed by virtue of claim 2's dependency from patentably distinct claim 1. M.P.E.P. § 2143.03 The Examiner is invited to reconsider and withdraw the rejection to claim 2.

The Examiner further rejects dependent claims 3-4, 9, and 15 as unpatentable under 35 U.S.C. § 103(a) over the above proposed combination in further view of U.S. Patent Publication 2003/0200236 A1 ("Hong"). The Applicant respectfully traverses this rejection. In this rejection the Examiner relies on the above proposed combination to teach all elements of independent claims 1, 8, and 14. As discussed above, this reliance is misplaced. The addition of the Hong reference fails to overcome the limitations of the above combination as it relates to the independent claims. Further, since dependent claims 3 and 4 further define and limit the invention described in independent claim 1; dependent claim 9 further defines and limits the invention described in independent claim 8, and dependent claim 15 further defines and limits the inventions described in independent claim 14 it is respectfully submitted that the

rejection to these dependent claims is traversed by virtue of their dependence from independent claims 1, 8, and 14. The Examiner is respectfully invited to reconsider and withdraw the rejection to these claims.

Further, there is no motivation to combine a “curve tracing system” taught by Hong with the proposed combination of the first rejection. The Examiner is invited to provide a reference that teaches, suggests or implies that the pattern recognition and curve tracing teachings of Hong would be obvious to one of ordinary skill in the acoustic arts. The mere assertion is insufficient to maintain this rejection. “The mere fact that the references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination” M.P.E.P. 2143.01

The Examiner additionally, rejects dependent claims 5, 11, and 17 as unpatentable under 35 U.S.C. § 103(a) over the above proposed combination in further view of U.S. Patent 6,980,665 (“Kates”). In rejection of claim 5 the Examiner relies on the first proposed combination to teach all elements of independent claim 1. As stated above, this reliance is misplaced. The proposed addition of the Kates reference does not correct the deficiencies of the first combination as applied to independent claim 1, 8, and 14. Further, since dependent claims 5, 11, and 17 further define and limit the invention as recited in independent claims 1, 8, and 14 respectfully, this rejection is traversed by virtue of dependency from patentably distinct independent claims 1, 8, and 14. M.P.E.P. § 2143.03 The Examiner is invited to reconsider and withdraw the rejection to these claims.

The Examiner additionally rejects dependent claims 6, 12, and 19 as unpatentable under 35 U.S.C. § 103(a) over the above proposed combination in further view of U.S. Patent 6,956,955 (“Brungart”). In rejection of claim 6 the Examiner relies on the first proposed combination to teach all elements of independent claim 1. As stated above, this reliance is misplaced. The proposed addition of the Brungart reference does not correct the deficiencies of the first combination as applied to

independent claims 1, 8, and 14. Further, since dependent claims 6, 12, and 19 further define and limit the invention as recited in independent claims 1, 8, and 14 respectively, this rejection is traversed by virtue of dependency from patentably distinct independent claims 1, 8, and 14. M.P.E.P. § 2143.03 The Examiner is invited to reconsider and withdraw the rejection to these claims.

The Examiner additionally rejects dependent claims 7, 13, and 18 as unpatentable under 35 U.S.C. § 103(a) over the above proposed combination in further view of U.S. Patent 6,980,665 ("Kates"). In rejection of claim 7 the Examiner relies on the first proposed combination to teach all elements of independent claim 1. As stated above, this reliance is misplaced. The proposed addition of the Kates reference does not correct the deficiencies of the first combination as applied to independent claims 1, 8, and 14. Further, since dependent claims 7, 13, and 18 further define and limit the invention as recited in independent claims 1, 8, and 14 respectively, this rejection is traversed by virtue of dependency from patentably distinct independent claims 1, 8, and 14. M.P.E.P. § 2143.03 The Examiner is invited to reconsider and withdraw the rejection to these claims

On page 7 of the Office Action the Examiner makes the following rejections:

Claim 8 has been analyzed and rejected according to claim 1.

Claim 9 has been analyzed and rejected according to claim 3.

Claim 10 has been analyzed and rejected according to claim 4.

Claim 11 has been analyzed and rejected according to claim 5.

Claim 12 has been analyzed and rejected according to claim 6.

Claim 13 has been analyzed and rejected according to claim 7.

Claim 14 has been analyzed and rejected according to claim 1.

Claim 15 has been analyzed and rejected according to claim 3.

Claim 16 has been analyzed and rejected according to claim 4.

Claim 17 has been analyzed and rejected according to claim 5.

Claim 18 has been analyzed and rejected according to claim 6.

Claim 19 has been analyzed and rejected according to claim 7.

Telephonic Interview

Applicant notes with appreciation the courtesies extended to the Applicant's representative in a telephonic interview conducted April 16, 2007. The unusual nature of this rejection was discussed and it was agreed that the basis for these rejections were the previous rejections contained in pages 1-6 of the Office Action and that a response to those rejections would be deemed responsive to the above listed rejections. Since the rejections contained within pages 1-6 are traversed, it is respectfully submitted that these rejections on page 7 are traversed. The Examiner is respectfully requested to reconsider and withdraw these rejections.

In the Office Action the Examiner rejects claim 20 18 as unpatentable under 35 U.S.C. § 103(a) over the above proposed combination in further view of the knowledge of one of ordinary skill in the art. In this rejection the Examiner equates a "centroid" with an average. As is known in the art, a "centriod" and an average are distinct. The Examiner has provided no reference to support his assertion it is known in the art that an average and a centriod are equivalent. If the Examiner maintains this rejection, the Applicant respectfully requests the Examiner provide a specific reference teaching the equivalence of centriod and average. It is respectfully submitted that the use of a centriod is not taught, suggested or implied in the cited references, and thus a prima facie case of obviousness has not been established. M.P.E.P. 2144.03.

On page 8 of the Office Action the Examiner makes the statement:

"Claim 21 has been analyzed and rejected according to claim 5."

As previously discussed, this rejection is traversed for the same reasons as the Examiner's rejections to claim 5 were traversed in light of the telephonic interview.

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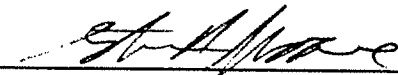
The Examiner additionally rejects dependent claim 22 as unpatentable under 35 U.S.C. § 103(a) over the above proposed combination in further view of U.S. Patent 6,980,665 ("Kates"). In rejection of claim 22 the Examiner relies on the first proposed combination to teach all elements of independent claim 20. As stated above, this reliance is misplaced. The proposed addition of the Kates reference does not correct the deficiencies of the first combination as applied to independent claims 20. Further, since dependent claim 22 further defines and limits the invention as recited in independent claim 20, this rejection is traversed by virtue of dependency from patentably distinct independent claim 20. M.P.E.P. § 2143.03 The Examiner is invited to reconsider and withdraw the rejection to these claims

Conclusion

Applicant believes that this Response has addressed all items in the Office Action and now places the application in condition for allowance. accordingly, favorable reconsideration and allowance of claims 1-22 is solicited. Should any issues remain unresolved, the Examiner is invited to telephone the undersigned.

Respectfully submitted,
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